9 34 A1
SD11
A512
No 18

Forest Service, United States Department of Agriculture

ALLEGHENY FOREST EXPERIMENT STATION*

FOREST SERVICE
ROCKY MOUNTAIN FOREST & RANGE EXP. STATION
FORT COLLINS, COLORADO
SEP 27 1937
RECEIVED

Technical Note No. 18.

2.511

THE FALL OF SHORTLEAF PINE SEED IN SOUTHERN NEW JERSEY

In order to determine when mature seed may be collected for nursery purposes or when reproduction cuttings may be made most advantageously, it is necessary to know when the seed is mature and when it reaches the seed bed. Since little specific information of this nature exists for shortleaf pine (P. echinata) in southern New Jersey, the Allegheny Station began, in the fall of 1936, observations on this species. The primary object was to determine when the seed fell, rather than the amount falling on a given area.

In one part of the study three seed traps, similar to those used by Isaac** and others, were placed directly under the crowns of seed trees. In another part of the study, one trap was placed in the center of each plot of a 16-plot Latin square. Here some of the traps were close to but not directly under the crowns of seed trees.

The dates observations were made and the total seed found in the 19 traps are tabulated below.

Date	No. of seed	Date	No. of seed	Date	No. of seed
Oct. 7, 1936	0	Jan. 6, 1937	3	May 1, 1937	1
Oct. 26, 1936	0	Jan. 26, 1937	0	May 10, 1937	0
Nov. 9, 1936	5	Feb. 9, 1937	0	May 17, 1937	0
Nov. 13, 1936	24	Mar. 1, 1937	1	May 24, 1937	0
Nov. 24, 1936	28	Mar. 8, 1937	2	June 1, 1937	0
Dec. 1, 1936	6	Mar. 22, 1937	1	June 12, 1937	0
Dec. 8, 1936	8	Mar. 30, 1937	0	June 25, 1937	0
Dec. 14, 1936	2	Apr. 12, 1937	3	July 7, 1937	0
Dec. 28, 1936	2	Apr. 22, 1937	1	Aug. 4, 1937	0
				Sept. 8, 1937	0
				Total	87

It will be noted that the greatest seed fall occurred in November, although some seed was caught as late as May 1, 1937. Unopened cones are known to remain on the trees throughout the summer and if removed and heated open readily. Apparently, however, they do not open while on the trees, during periods of high temperature, as might be expected. On the other hand no seed was trapped before the first killing frost which occurred October 27, 1936. As the table shows this frost had no very immediate effect on seed fall. The period of greatest fall in November was abnormally dry and cold. Possibly these conditions may have affected the seed fall. In the autumn of 1937 observations will be made at more frequent intervals so that any link between seed fall and weather conditions may be noted.

INDEXED

O. M. Wood
Assistant Silviculturist

September 23, 1937.

* Maintained at Philadelphia, Pennsylvania, in cooperation with the University of Pennsylvania.

** Isaac, Leo A., Seed flight in the Douglas fir region. Jour. For. 28:4 492-99